

**10. *Heleodytes guttatus* (GOULD).**

Yucatan Cactus Wren.

Three specimens:

a. ♀, Progreso, Feb. 4, 1904.

b, c. Xbac (?), 1901, G. F. Gaumer.

Although I obtained this bird at Progreso, whence it has been reported several times, I have no notes on its abundance or habits.

**11. *Mimus gilvus gracillis* (CABOT).**

Yucatan Mockingbird.

Maya neme, *tšī-kō*. "Native name 'Chico,' or 'Zenzotl.' The name of 'Zenzotl' is generally given in Mexico to all the species of Mocking-birds." — Boucard, Proc., Zool. Soc. Lond., 1883, p. 439.

One specimen, given me by Dr. Gaumer.

I found this bird common at Progreso, but did not see it at Chichen-Itza.

**12. *Cyanerpes cyaneus* (LINNÉ).**

Blue Honey Creeper.

One specimen: Xbac (?), 1901, G. F. Gaumer.

Although reported from other States of Mexico and from other parts of Central America, there appears to be no previous record of this bird from Yucatan.

**13. *Volatinia jacarini splendens* (VIEILLOT).**

Blue-black Grassquit.

One specimen: [♂], Xbac (?), 1901, G. F. Gaumer.

**REPTILIA, AMPHIBIA, AND PISCES.**

BY THOMAS BARBOUR AND LEON J. COLE.

**Introduction.**

The collections upon which this report is based are from the following sources: First, series obtained by Mr. Leon J. Cole; secondly, specimens from Mr. Edward H. Thompson, received at various times; thirdly, specimens in the Museum of Comparative Zoölogy from various sources other than those mentioned.

The literature on the lower vertebrates of Yucatan is not very extensive. Large collections have been made by Dr. G. F. Gaumer at various localities, and upon these specimens, for the most part, are based the Yucatan records of the *Biologia Centrali-Americana*. Ives, in the Proceedings of the Phila. Acad. for 1891, reported on the reptiles collected by Professor Heilprin's party; he described *Anolis acutirostris* as new; we record this species for the second time. Cope, in several papers, has also added

to our knowledge of the herpetology of Yucatan. Of the fishes less is known. The expedition of the *Albatross* to Cozumel Island resulted in a report on the fauna of that area; beyond this, however, little seems to have been published of the coast fishes. The fresh-water fishes are very few in number; that they are of great interest will be observed by examining the list which follows. Their distribution in the cenotes at Chichen-Itza is of especial interest. In the Sacred Cenote and in another cenote some three or four miles to the eastward and known as "Ikil" occur two entirely distinct species of catfishes, both of which, moreover, are new to science. Their habits are entirely distinct, as well as their specific morphological characters. This fact would appear to preclude the notion that these cenotes are connected by underground streams. On the other hand the "mojarra," *Heros urophthalmus*, occurs in both the Sacred and the great Cenote at Chichen-Itza, and is probably widely distributed throughout the peninsula. It is common in the brackish waters of the *cienaga* at Progreso. It has previously been reported only from Lake Peten, in Guatemala. This fish is used extensively for food and it is possible that the Indians have aided in its dissemination. One other species, *Heros affinis*, found in the *cienaga*, has been known previously only from Lake Peten.

Only a word is necessary to explain the apparent faunal relationships of the lower vertebrates of the Yucatan peninsula. Its fauna is, as would be expected, made up of typical species abundant in Mexico and in Central America. A few of the species are peculiar to the region. They, however, show no such special modifications as might have developed from peculiar local conditions, so that it seems reasonable to expect that with further investigation they may be found in the neighboring regions. In this way the lower vertebrates differ from the birds and mammals, which appear to have developed numerous local geographical races peculiar to Yucatan.

It is our pleasure to acknowledge our indebtedness to Dr. Leonhard Stejneger, Dr. B. W. Evermann, Mr. Samuel Garman, and Dr. Alex. G. Ruthven for advice and assistance in identification.

## REPTILIA.

### TESTUDINATA.

#### 1. *Cistudo mexicana* (GRAY).

Two examples from Chichen-Itza, Yucatan — an alcoholic specimen taken April 8, and a dried carapace.

## 2. *Cinosternon leucostomum* A. DUMERIL.

One adult, dried, collected by Dr. G. F. Gaumer. Two young, in alcohol, from Chichen-Itza, taken by Mr. E. H. Thompson. Turtles, probably of this species, were reported several times as having been seen in the Sacred Cenote.

The specimens agree with the descriptions except that the first vertebral plate has convex sides instead of concave. The axillary and inguinal plates are in contact.

## 3. *Thalassochelys cephalo* (SCHNEIDER).

Skull found on the beach at Progreso. From the number of shells seen this species must be very common.

## LACERTILIA.

### 4. *Hemidactylus exsul*, sp. nov.

*Type*. — No. 7039, Mus. Comp. Zoöl. Progreso, Yucatan, April 13, 1904. Leon J. Cole.

Snout about equal to distance between eye and ear openings: forehead concave: ear opening medium, ovoid, oblique. Body and limbs moderate. Digits rather dilated: two divided lamellae under the inner fingers; five under the second; six under the others. Three divided lamellae under the inner toes; six or seven under the others. Below these there are from one to three undivided lamellae beneath both fingers and toes. Granules on snout larger than those elsewhere. Among the granules of the back are fifteen rather irregular series of subtrihedral granules. These are about the same size as the ear opening, sometimes rather smaller. Rostral four-sided with a median cleft above, a little broader than high. Nostril between rostral, first labial, and three nasals. Mental large and subpentagonal: first pair of chin shields almost in contact behind the mental. Ventral scales small, sub-cycloid, slightly imbricate. Male with eight preanal pores in a curved series. Tail rather depressed, bearing tubercles on its base and rather large transverse plates below.

Color in alcohol: Grayish brown above, somewhat marbled with cinnamon, the darker spots occurring in three irregular series along the dorsal region and very irregularly on the head.

### 5. *Thecadactylus rapicauda* (HOULTUYN).

One example from Chichen-Itza, Yucatan. Collected by Mr. E. H. Thompson.

### 6. *Anolis aureolus* COPE.

Six examples from Chichen-Itza. Identified by Dr. Stejneger.

### 7. *Anolis ustus* COPE.

Five examples from Chichen-Itza. Inclined to brownish below; one example shows a light vertebral stripe.

**8. *Anolis beckeri* BOULENGER.**

One example from Chichen-Itza. Apparently typical, but in rather poor condition.

**9. *Anolis acutirostris* IVES.**

Two examples from Chichen-Itza.

**10. *Norops yucatanicus*, sp. nov.**

*Types*. — Three specimens, No. 7036, Mus. Comp. Zoöl. Chichen-Itza, Yucatan, Leon J. Cole.

Habit rather stout; head about once and a half as long as broad, a very little shorter than the tibia. Scales on head subequal and unicarinate. Occipital scale much smaller than ear opening; six labials to below the centre of the eye; ear opening oval and vertical; about one half the diameter of the eye. Gular appendage moderate, gular scales large and strongly keeled. Enlarged dorsal scales in twelve or thirteen rows. Lateral scales small and keeled. The adpressed hind limb reaches slightly beyond the tip of the snout; digits slightly dilated. Tail just about as long as head and body; covered with equal sharply keeled scales.

Color: (alcoholic specimen) uniform fawn color. In one specimen there is a dark dorsal band. This band is wider than the region of enlarged scales, and is prolonged half-way down the sides in points. The central area of this band is lighter than the lateral.

Two specimens are adult and one is young.

**11. *Basiliscus vittatus* WIEGMANN.**

Five young examples and one female with eggs taken April 6, all from Chichen-Itza. There are many specimens in the Museum (M. C. Z. No. 6268) taken by Edw. H. Thompson at Merida.

**12. *Laemanctus alticoronatus* COPE.**

One example from Chichen-Itza.

Scales in 55 rows; Boulenger gives the rows of scales at from 45 to 51, and in *L. serratus* Cope from 57 to 61 rows. This specimen approaches *L. serratus* in the rather distinct vertebral serration. There are no white lines on the neck and thighs in this example; neither do white spots characteristically situated appear. This specimen seems ideally intermediate between the two species, but with only one specimen definite conclusions are unreasonable.

A description of the colors of the specimen while alive is added from the field notes: — "Under parts light yellowish green with brown markings; above this on sides a white stripe; then a reticulated region of darker green, and above this again a yellowish green stripe. Back with alternate blotches of green and black. Head bright pea green. Colors gradually fade towards tail, which becomes grayish brown."

**13. *Ctenosaura acanthura* (SHAW).**

A single example from Progreso, as well as a large series from Chichen-Itza.

Following Günther (Biol. Cent.-Amer., Rept., 1890, p. 56) we have placed these examples under this species. Ives (Proc. Phil. Acad. Nat. Sci., 1891, p. 459) records Yucatan examples under the name *C. cycluroides* Harlan.

**14. *Ctenosaura (Cachryx) defensor* (COPE).**

One example from Chichen-Itza.

According to Boulenger (Proc. Zool. Soc. London, 1886, p. 241) Cope's genus *Cachryx* is untenable because it has been shown to intergrade with *Ctenosaura*. Still its characters would seem sufficiently definitive to warrant the subgeneric use of the name.

**15. *Sceloporus chrysostictus* COPE.**

Three examples from Chichen-Itza, four from Progreso, and one from San Ignacio, taken on Feb. 9.

**16. *Sceloporus serrifer* COPE.**

One example taken March 15, at Chichen-Itza.

**17. *Sceloporus variabilis* WIEGMANN.**

Eighteen examples from Progreso.

**18. *Cnemidophorus sexlineatus* (LINNÉ).**

Sixteen examples from Chichen-Itza, nine from Progreso.

The specimens show very marked variability in size, marking, and squamation. We have the typical form as well as examples agreeing with descriptions of the varieties *mexicanus*, *angusticeps*, and *costatus* which Boulenger recognizes. For several specimens we would need to describe new subspecies were we to admit any to be different from the *forma typica*. It must be said, however, that among the large number which we have both taken and seen in Florida, no such variability ever occurs.

**OPHIDIA.****19. *Glauconia albifrons* (WAGLER).**

One example from Chichen-Itza, collected in the Maya ruins by Mr. E. H. Thompson.

A second example has also been received, taken by Mr. E. H. Thompson at the same locality, date uncertain, but between 1890 and 1900.

**20. *Typhlops microstomus* COPE.**

One example, also from the Maya ruins near Chichen-Itza.

**21. *Leptognathus sanniola* (COPE).**

Three examples from Chichen-Itza. Two of these were taken by L. J. Cole, and one by Mr. E. H. Thompson.

These specimens show several peculiar variations from Cope's description. One example has three praeoculars on one side and two on the other. Two specimens have undivided anal scales, while the third specimen is incomplete and lacks the anal scale. These also have both more ventrals and subcaudals than seems typical. Cope's description calls for  $156 + 55$ ; while in ours the counts run  $\frac{15}{162 + 77}$ ,  $\frac{15}{152 + 72}$ , and  $\frac{15}{158 + 73}$ . It is possible that the tail of Cope's specimen was broken.

In *L. dimidiata*, while the anal is undivided, there are no praeoculars and the ventrals count  $185 - 195$ , subcaudals  $98 - 126$ .

**22. *Tropidodipsas sartorii* (COPE).**

One example from Chichen-Itza. Agrees with var. A. of Boulenger, Cat. Snakes British Museum, 2, p. 297. Scales  $\frac{17}{191 + 63}$ ; there is one more ventral than the maximum number cited by Boulenger.

**23. *Leptodeira yucatanensis* (COPE).**

One example taken at Chichen-Itza by Mr. E. H. Thompson.

The cross bands descend to the ventrals, the lateral spots are general, the lower surfaces immaculate. Sc.  $\frac{21}{190 + 65}$ .

The stomach of this specimen, about 20 inches long, contained an example of *Ctenosaura acanthura* about 7 inches long.

Another specimen has been received, taken also at Chichen-Itza by E. H. Thompson, 189-.

**24. *Himantodes gemmistratus* COPE.**

*Dipsas gracillima* Günther. Biol. Cent.-Amer., Rept., 1895, p. 177, pl. 56, fig. B.

One example from Progreso, Yucatan. Sc.  $\frac{17}{225 - 153}$ ; forty-four dark brown markings on body; thirty-one on tail.

An example from Chichen-Itza taken by Mr. E. H. Thompson, 189-, has recently been received.

**25. *Thamnophis saurita proxima* (SAY).**

Three examples from La Cienega, Progreso. Taken by L. J. Cole. These were sent to Mr. Alex. G. Ruthven of Ann Arbor, Michigan, who has very kindly returned the following remarks:—

"The three specimens sent me . . . belong to the *saurita* group, of Garter Snakes, as is shown by the position of the lateral stripe on the 3d and 4th

rows of dorsal scales, and the very slender body and long tail. As is to be expected, these specimens are most closely related to the nearest geographical representative of the group (*proxima*), and differ from this form but little. The proportionate length of the tail falls well within the limits of variation in *proxima*, as do also the number of caudal plates. The number of dorsal rows of scales (19-17) is exactly the same as in *proxima* specimens. In one of the specimens there are 7 supralabials on one side, which may or may not indicate a tendency toward a reduction in this region, but the number of ventral plates (150 in the only specimen in which they can be counted) is decidedly less than is normal in *proxima*, which has a range of variation from about 164 to 174. Since but one specimen has been examined this small number might be considered abnormal were it not for the fact that *Orizaba* specimens and Cope's type of *rutiloris*, both of which belong to this group, also possess a smaller number of ventral plates than is normally the case in *proxima* specimens.

"The general type of color is the same as in *proxima*. The ground color above is dark greenish olive, the belly light bluish. The lateral stripes are narrow and are situated on the 3d and 4th rows of dorsal scales. The dorsal stripe is rather inconspicuous. The labials are uniformly white (possibly red in life). There are the usual light bars on the preoculars in front of the eye, and on the lower postoculars. There are no spots on the end of the gastrosteges, on the dorsal scales, or labials. Dorsal scales 19-17 in all specimens; supralabials 8; 8; R. 7, L. 8: infralabials 10; R. 10, L. 11; 10: oculars 1-3; L. 2-3, R. 1-3; 1-3: temporals 1-2 in all: urosteges 88; 91; 81: gastrosteges 150; ?; ?."

#### 26. *Coluber triaspis* COPE.

One specimen, young, from Chichen-Itza.

Concerning this specimen, Dr. Stejneger very kindly writes under date of Oct. 9, 1905:

"The snake is *Coluber triaspis*. I have compared it with the types of *C. flavirufus*, *mutabilis*, and *triaspis*. It is not the first mentioned; it agrees exactly with the second, which is probably a synonym of the third. *C. triaspis* type seems to be an abnormal specimen with 3 loreals and 4 first temporals, otherwise = *mutabilis*."

#### 27. *Herpetodryas carinatus* (LINNÉ).

One specimen lately received from Mr. E. H. Thompson. Taken at Chichen-Itza, 189-.

This specimen is interesting in that the median five series of scales are keeled; the median three distinctly, the outer pair considerably less so.

#### 28. *Coronella micropholis* (COPE).

One example, adult taken at Chichen-Itza on April 6, 1904, by L. J. Cole. This is a large example and represents var. B. of Boulenger's Cat. Snakes Brit.

Mus., 2, p. 203, 204. Sc.  $\frac{21}{212 + 53}$ .

A second example, young and imperfect, was found in the same locality on March 6. This represents var. E., Boulenger, *loc. cit.*, 3, p. 405.

A third, also young, has been received from Mr. E. H. Thompson. Taken at the same locality, during the years 1890-1900.

### 29. *Conophis lineatus concolor* (COPE).

One example from Chichen-Itza, taken April 6. Sc.  $\frac{19}{166 + 72}$ ; this specimen seems to fall under *C. lineatus* var. B., Boulenger, *loc. cit.*, 3, p. 122, 123.

### 30. *Ficimia olivacea publia* (COPE).

One example from Chichen-Itza.

Sc.  $\frac{17}{145 + 37}$ ; there are twenty-six bars on the body and nine on the tail. The internasals are perfectly distinct.

### 31. *Geophis multitorques yucatanicus*, subsp. nov.

*Type*. — One specimen, No. 7037, Mus. Comp. Zoöl. Chichen-Itza, Yucatan, March 6, 1904, Leon J. Cole.

This form differs from *G. multitorques* (Cope) in having seven upper labials, two postoculars, a divided anal, and in being uniform plum-brown in color.

Each scale has a darker dot at its apex. Sc.  $\frac{17}{174 + 31}$ .

### 32. *Elaps fulvius* (LINNÉ).

Two examples from Chichen-Itza.

One example with sixteen black annuli on the body; anal divided, and sc.

$$\frac{15}{217 + 43}.$$

The other example has only thirteen annuli of black on the body, the anal is entire, and sc.  $\frac{15}{221 + 41}$ .

These seem to fall under var. B., Boulenger, *loc. cit.*, 3, p. 424.

### 33. *Crotalus terrificus* (LAURENTI).

Three examples from Chichen-Itza; one young, two half-grown.

These fall under var. B. of Boulenger, *loc. cit.*, 3, p. 575. The stripes on the neck are well marked in all three examples.

## AMPHIBIA.

### 1. *Rana virescens areolata* (BAIRD & GIRARD).

Two specimens taken from brackish water in La Cienaga near Progreso, Jan. 28-Feb. 10. Four from Chichen-Itza taken during March.



## 2. *Bufo valliceps* WIEGMANN.

Four specimens from Chichen-Itza taken during April.

"This toad trills at a high pitch." Ives reports this toad from Yucatan (Proc. Phil. Ac. Nat. Sci., 1892, 1891, p. 461).

## 3. *Bufo marinus* (LINNÉ).

Seven examples from Chichen-Itza, Yucatan.

Both *B. marinus* and *B. valliceps* were common in the cenotes, and were often found about watering troughs at the house as well. They were breeding in February, and on Feb. 19 eggs were observed, though it is uncertain to which species they belonged. By March 18 the tadpoles had reached a length of 2 cm. or so in the Sacred Cenote, and had become scattered about instead of swimming in dense schools as before. Mr. Thompson says that when the toads come to the cenotes to breed they plunge directly off from the top of the vertical walls to the water 65 feet below. The old toads after breeding and the young toads also appear to get out by working their way laboriously up the walls, taking advantage of the small irregularities.

## 4. *Hyla phlebodes* STEJNEGER.

Proc. U. S. Nat. Mus., 1906, 30, pp. 817, 818.

Two examples from Chichen-Itza, compared with the type by Dr. Stejneger.

## 5. *Hyla baudinii* DUMERIL & BIBRON.

One example taken March 22, at Chichen-Itza, Yucatan.

"Call of this species a resonant *kwa, kwa, kwa* (*a* as in father). Most frequently heard in a tall cocoanut-palm. At night they come down to among the challote vines which grow about the water tank. The note is pitched low, but is of a far-reaching quality. Usually uttered three or four times in succession, at intervals of perhaps five minutes."

## 6. *Triprrion petasatus* (COPE).

One specimen taken at Chichen-Itza, March 28.

"Note an unmusical, rather drawn-out *quarr — quarr — quarr*. Not guttural, but with a rasping quality. Life colors as follows: Top of head fuscous, with silvery greenish gray dots; back silvery gray, with dark fuscous blotches and smaller spots; sides with yellowish green suffusion; arms and legs brown, with yellowish blotches on upper arms and legs; silvery gray on lower arms and legs. Under sides whitish. The gray has a decided greenish tinge, which became more marked in a short time while the creature was held in the hand. This frog was not heard during the drier part of the season (February and most of March), but was heard quite frequently during the last part of March, when there was more rain."

7. *Spelerpes yucatanus* PETERS.

*S. yucatanicus* Boulenger. Cat. Batr. Grad. Brit. Mus., 1862, p. 72.

One specimen from Chichen-Itza, taken, together with a single egg, in the damp earth near a watering trough on March 7.

## PISCES.

1. *Scoliodon terrae-novae* (RICHARDSON).

One specimen from Progreso.

2. *Sphyrna tiburo* (LINNÉ).

One specimen from Progreso.

3. *Urolophus jamaicensis* (CUVIER).

One specimen from Progreso.

4. *Dasybatis hastata* (DEKAY).

One specimen from Progreso.

This species seems to be considered a favorite food fish.

5. *Felichthys marinus* (MITCHILL).

Two specimens from the Gulf of Mexico at Progreso.

6. *Rhamdia depressa*, sp. nov.

## Plate 1.

*Types*. — Eleven examples, No. 29072, Mus. Comp. Zoöl. Ikil Cenote, near Chichen-Itza, Yucatan, Leon J. Cole.

Head  $4\frac{2}{3}$ ; D. 1, 6; A. 10. Body rather slender, more stout anteriorly than posteriorly; head rather large, flat, narrowed forward. Eye rather high up, small, its diameter  $6\frac{2}{3}$  in head. Teeth in bands. The maxillary barbel reaches the base of the anal fin; in some specimens it is rather shorter, but in none longer. The mental barbel reaches about half-way to base of pectoral, and the postmental considerably beyond the base of the pectoral fin. Origin of spinous dorsal fin rather less than half way from origin of ventral fins to gill opening. Length of base of adipose dorsal fin  $3\frac{1}{2}$  in total length. The caudal fin is forked; its lobes are rounded but somewhat narrow. Ventral fins inserted below the posterior limit of the base of the spinous dorsal fin.

Color uniform dull brown. The largest specimen of this series is about a foot long.

Field notes. Ikil Cenote is about three miles east of Chichen-Itza. It is about 100 ft. in diameter, but on the east and south sides a projecting ledge covers it for nearly a third of the distance. A sounding through a well in this overhanging part gave 65 ft. to water, and 95 ft. depth of water. These silu-

roids were numerous and could be seen swimming slowly about near the surface. They took bait readily; even if a stone was thrown in they swam rapidly to the spot.

### 7. *Rhamdia sacrificii*, sp. nov.

#### Plate 2.

*Types*. — Two examples, No. 29073, Mus. Comp. Zool. Sacrificial Cenote, near Chichen-Itza, Yucatan, Leon J. Cole.

Head  $4\frac{3}{4}$ ; D. 1, 6; A. 10. Body stout its entire length; head large, flat, little narrowed forward. Eye very high up, small, its diameter  $7\frac{1}{2}$  in head. Teeth in bands. The maxillary barbel reaches a little beyond the base of the ventral fins. The mental barbel reaches about three fifths of the distance to the pectoral, and the postmental a little beyond the base of the pectoral. Origin of spinous dorsal a little posterior to a vertical line from posterior part of base of pectoral fin. Length of base of adipose dorsal fin  $2\frac{5}{8}$  in total length. The caudal fin is forked; its lobes are bluntly rounded, almost truncate. Ventral fins inserted a little caudad of the posterior limit of the spinous dorsal fin.

Color uniform dark slaty gray. The larger specimen is slightly more than one foot in length.

Unlike the preceding species, *R. sacrificii* appears to be a bottom form, and was never seen at the surface. It also took the bait much less readily.

### 8. *Elops saurus* LINNÉ.

Two specimens from the Gulf of Mexico at Progreso.

### 9. *Sardinella sardina* (POEY).

Seventeen examples from the Gulf of Mexico at Progreso.

### 10. *Stolephorus brownii* (GMELIN).

Thirteen specimens from the Gulf of Mexico at Progreso.

### 11. *Synodus foetens* (LINNÉ).

Two examples from the Gulf of Mexico.

### 12. *Fundulus grandis* BAIRD & GIRARD.

Eleven examples from La Cienaga near Progreso.

The largest size mentioned by Garman (Cyprinodonts, p. 97) for this species is six inches. Among this series, however, are several nearly ten inches long. The upper surface of the head is extremely flat: the eye, when seen in side view, has its upper edge elevated above the contour line of the head. It is rather more elevated than is shown in Girard's figure (Mex. Boundary Surv., 2, p. 69, pl. 36).

**13. *Cyprinodon eximius* GIRARD.**

Fifty-one specimens from La Cienaga near Progreso, Yucatan.

**14. *Jordanella floridae* GOODE & BEAN.**

Twenty-five specimens from La Cienaga near Progreso.

**15. *Gambusia gracilis* HECKEL.**

Eleven specimens from La Cienaga near Progreso.

**16. *Belonesox belizanus* KNER.**

Eight specimens from La Cienaga near Progreso.

**17. *Mollienisia latipinna* LE SUEUR.**

Sixty-one examples (♂'s, ♀'s, and young) from La Cienaga near Progreso. Many examples have well-defined bands through the eyes passing upwards and forwards.

**18. *Tylosurus marinus* (WALBAUM).**

Five examples from La Cienaga near Progreso.

**19. *Hyporhamphus unifasciatus* (RANZANI).**

Three specimens from the Gulf of Mexico near Progreso.

**20. *Mugil curema* CUVIER & VALENCIENNES.**

One specimen from the Gulf of Mexico near Progreso.

**21. *Mugil trichodon* POEY.**

One specimen from La Cienaga near Progreso.

**22. *Scomberomorus regalis* (BLOCH).**

One specimen from the Gulf of Mexico at Progreso.

**23. *Caranx hippos* (LINNÉ).**

One specimen from La Cienaga near Progreso.

**24. *Selene vomer* (LINNÉ).**

One young specimen from the Gulf of Mexico at Progreso.

**25. *Epinephelus morio* (CUVIER & VALENCIENNES).**

Three specimens from the Gulf of Mexico at Progreso.

**26. *Diplectrum formosum* (LINNÉ).**

Three specimens from the Gulf of Mexico at Progreso.

**27. *Neomaenis griseus* (LINNÉ).**

One specimen from the Gulf of Mexico at Progreso.

**28. *Neomaenis synagris* (LINNÉ).**

Two specimens from the Gulf of Mexico at Progreso.

**29. *Haemulon plumieri* (LACÉPÈDE).**

Two specimens from the Gulf of Mexico at Progreso.

**30. *Orthopristis chrysopterus* (LINNÉ).**

Five specimens from the Gulf of Mexico at Progreso.

**31. *Cynoscion nebulosus* (CUVIER & VALENCIENNES).**

One specimen from the Gulf of Mexico at Progreso.

"A much prized food fish."

**32. *Sagenichthys ancyloдон* (BLOCH & SCHNEIDER).**

One specimen from the Gulf of Mexico at Progreso.

**33. *Corvula sanctae luciae* JORDAN.**

One specimen from La Cienaga near Progreso.

**34. *Bairdiella chrysurā* (LACÉPÈDE).**

One specimen from the Gulf of Mexico at Progreso.

**35. *Menticirrhus americanus* (LINNÉ).**

One specimen about one foot long, and five somewhat smaller from the Gulf of Mexico at Progreso.

**36. *Heros affinis* GÜNTHER.**

One specimen from Progreso, taken in La Cienaga.

This specimen does not agree exactly as to color markings and it has 15 dorsal spines instead of the usual 16. Previously known only from Lake Peten, Guatemala.

**37. *Heros urophthalmus* GÜNTHER.**

Many specimens from La Cienaga at Progreso and also from the Great and Sacred Cenotes at Chichen-Itza.

They range in size from one to about ten inches long. "At Progreso this fish is much used for food. It was common in the cenotes at Chichen-Itza, but the specimens taken did not appear to be as large as those taken near the coast. Their coloration was, however, somewhat brighter. Specimens from the Great Cenote have been introduced into the water troughs at the hacienda for three or four years. Here they were living very well. It was noted that

in the tanks containing these fishes mosquito larvae were entirely absent, whereas in the tanks without fishes larvae were exceedingly abundant. The fact that these fishes live so well in small bodies of water offers the suggestion that they may prove of practical value in aiding to subdue the mosquito pest in Yucatan."

This species has apparently been known thus far only from three specimens taken in Lake Peten by Salvin and Godman.

**38. *Balistes carolinensis* GMELIN.**

One specimen from the Gulf of Mexico at Progreso.

**39. *Lagocephalus pachycephalus* (RANZANI).**

Three specimens from the Gulf of Mexico at Progreso.

**40. *Lagocephalus laevigatus* (LINNÉ).**

Two specimens from the Gulf of Mexico at Progreso.

**41. *Opsanus tau* (LINNÉ).**

One specimen from Gulf of Mexico at Progreso.

**42. *Opsanus pardus* (GOODE & BEAN).**

Three specimens from Progreso, Gulf of Mexico.

**43. *Emblemaria atlantica* JORDAN & EVERMANN.**

One specimen from La Cienaga near Progreso.

**44. *Echeneis naucrateoides* ZUIEW.**

Two specimens from the Gulf of Mexico at Progreso.

One specimen with but 18 laminae in the disc, the other has 20. Jordan and Evermann (*Fishes of North and Middle America*, p. 2270) give 20 or 21 as the characteristic specific number.

**45. *Ogcocephalus vespertilio* (LINNÉ).**

One young specimen from the Gulf of Mexico at Progreso.